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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,604	04/01/2002	Tomohiko Hashiba		3008

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WASHINGTON, DC 20006-1021

EXAMINER

MCKANE, ELIZABETH L

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/089,604

Applicant(s)

HASHIBA, TOMOHIKO

Examiner

Leigh McKane

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1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 062102.070302.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

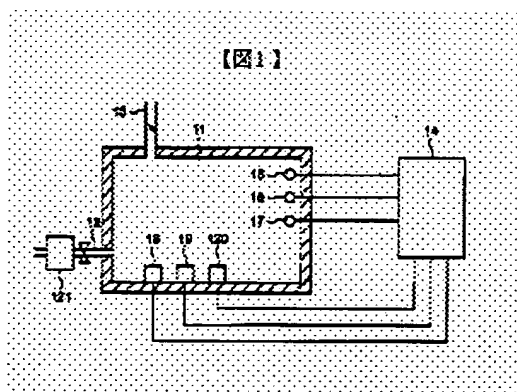
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashiba (JP 11-226094) in view of Hennebert et al (U.S. Patent No. 4,637,916).

Hashiba teaches a formaldehyde gas disinfection apparatus including a disinfection space

11 provided with a formaldehyde gas generator 18, a humidity regulator 19, and a temperature regulator 120.



A gas deliverer (pipe leading from 22, in Figure 2) delivers formaldehyde into the disinfection space and discharge gas treater 121 treats the discharge gas from the disinfection space. Hashiba further discloses the use of

pumps for moving gas into and out of inlet and outlet 12,13. The apparatus of Hashiba employs a controller 14 in connection with sensors 14,15,16 for controlling the generation and

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concentration of formaldehyde, for controlling the relative humidity of the formaldehyde, and for controlling the temperature of the formaldehyde. The temperature of the formaldehyde is maintained at 20-40 °C, the humidity between 50%-90%, and the concentration at 2000 ppm or greater. See machine translation, [0006], [0014], [0015]. The formaldehyde generator of Hashiba is located within the disinfection space, not within a separate housing wherein the generated formaldehyde is delivered to the disinfection space.

However, Hennebert et al discloses that it was known in the art at the time of the invention of generate formaldehyde **21** external to the disinfection space **1** and deliver it thereto. As external generation of formaldehyde is known in the art, it would have been obvious to provide the formaldehyde generator and accompanying control means of Hashiba external to the disinfection space in the manner of Hennebert et al, as no unexpected results would have been achieved in doing so.

Hashiba is silent with respect to control of the pressure within the disinfection space. However, Hashiba does teach sealing the disinfection space. See machine translation, [0011]. Hennebert et al evidences the known use of pressure control in a formaldehyde sterilization apparatus (col.7, lines 58-63) and uses a carrier gas, such as air, to increase chamber pressure. See col.2, lines 57-68. The control of pressure in the apparatus of Hennebert et al achieves an improvement in the overall effectiveness of the apparatus. For this reason, it would have been obvious to control the pressure in the sealed space of Hashiba.

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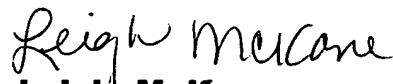
***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kolstad et al (U.S. Patent No. 4,973,449) and Krouthén (U.S. Patent No. 4,447,394) both teach a formaldehyde sterilization apparatus wherein the formaldehyde is generated external to the disinfection space. Miyoshi discloses an apparatus wherein the formaldehyde is generated external to the disinfection space and the discharge from the space is treated.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (6:30 am-4:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Leigh McKane**  
**Primary Examiner**  
**Art Unit 1744**

elm  
24 May 2005